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New Divisional Application
Preliminary Amendment Filed Herewith

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1- 13 (Canceled)

Claim 14 (Original): An optical transmission module comprising:

a resonant-cavity light-emitting diode, said resonant-cavity light-emitting diode including:

a substrate having a first main surface and a second main surface which are substantially parallel to each other,

a first semiconductor distributed Bragg reflector mirror layer formed on said first main surface of said substrate,

a semiconductor light-emitting layer formed over said first semiconductor distributed Bragg reflector mirror layer,

a second semiconductor distributed Bragg reflector mirror layer formed over said semiconductor light-emitting layer,

a light extraction section which is formed on said second semiconductor distributed Bragg reflector mirror layer and has an opening to extract light from said semiconductor light-emitting layer,

a first electrode formed around said light extraction section on said second semiconductor distributed Bragg reflector mirror layer,

a second electrode formed on said second main surface of said substrate, and

a reflector portion provided on an inner wall of a groove, said groove being formed by removing portions of said first semiconductor distributed Bragg reflector mirror layer, said semiconductor light-emitting layer and said second semiconductor distributed Bragg reflector mirror layer which lie in a peripheral portion of said first electrode and formed to penetrate through each of said semiconductor light-emitting layer reflector mirror layer and said second semiconductor distributed Bragg reflector layer and reach said first semiconductor distributed Bragg reflector mirror layer, said reflector portion being formed to reflect part of light emitted from said semiconductor light-emitting layer into said groove; and

an optical fiber on which light from said light extraction section and groove of said resonant-cavity light-emitting diode is incident.

Claim 15 (Original): The optical transmission module according to Claim 14, wherein said groove of said resonant-cavity light-emitting diode is configured in substantially a ring form and a diameter of a light-receiving end surface of said optical fiber is larger than that of said ring of said ring-form groove.

Claim 16 (Original): The optical transmission module according to Claim 14, wherein said reflector portion of said groove of said resonant-cavity light-emitting diode is configured with a concave surface with respect to light from said semiconductor light-emitting layer.

Claim 17 (Original): The optical transmission module according to Claim 14, wherein said reflector portion includes a reflection film which is formed on an inner wall portion of said groove and reflects light from said semiconductor light-emitting layer.

Claim 18 (Original): The optical transmission module according to Claim 14, wherein said semiconductor light-emitting layer of said resonant-cavity light-emitting diode includes an active layer using an $In_{1-x}(Ga_{1-y}Al_y)_xP$-series material ($o \leqq x, y \leqq 1$) and a light emission wavelength thereof is 620 to 690 nm.

Claim 19 (Original): The optical transmission module according to Claim 14, further comprising a high-resistance region which is formed to reach said inner wall of said groove and formed by making portions of said first semiconductor distributed Bragg reflector mirror layer and said second semiconductor distributed Bragg reflector mirror layer of said resonant-cavity light-emitting diode other than at least portions thereof which lie just below said opening of said light extraction section electrically highly resistive.

Claim 20 (Original): The optical transmission module according to Claim 19, wherein each of said first semiconductor distributed Bragg reflector mirror layer and said second semiconductor distributed Bragg reflector mirror layer of said resonant-cavity light-emitting diode includes a semiconductor layer with a high Al composition ratio and said high-resistance region is formed by selectively oxidized part of said semiconductor layer in a lateral direction from said groove.